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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/894,378	06/29/2001	Richard Henry Dee	2001-021-TAP	5547

7590 02/10/2004
Wayne P. Bailey
Storage Technology Corporation
One StorageTek Drive
Louisville, CO 80028-4309

EXAMINER

CASTRO, ANGEL A

ART UNIT	PAPER NUMBER
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2653

DATE MAILED: 02/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/894,378

Applicant(s)

DEE, RICHARD HENRY

Examiner

Angel A Castro

Art Unit

2653

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 October 2003.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3-7 and 10-14 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 3-7, 10-14 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

This Office Action is in response to Amendment A, filed 10/9/03.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 3-7 and 10-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki (U.S. Pat. 6,134,078) in view of Cain et al (U.S. Pat. 5,493,467).

Regarding claims 3 and 10, Suzuki discloses a sensor apparatus (figure 1), comprising:

a first sensor 16;

a second sensor 15; and

at least one flux guide 13, wherein a flux generated by the at least one flux guide is shared between the first sensor and the second sensor to thereby reduce a sensitivity of the sensor apparatus (column 1, lines 27-28).

Regarding claims 4 and 11, it is inherent in the reference that by sharing the flux between the first sensor and the second sensor it reduces a flux injection efficiency of the sensor apparatus.

Regarding claims 5 and 12, Suzuki discloses that the at least one flux guide includes a top flux guide 13 and a bottom flux guide 12.

Regarding claims 6 and 13, Suzuki discloses that the top flux guide 13 is positioned between the first sensor 16 and the second sensor 15, and the bottom flux guide 12 is positioned nearest a side of the second sensor that is furthest away from the first sensor.

Regarding claims 7 and 14, Suzuki discloses that the second sensor is positioned on the planars (the planars in this particular case would be the layer between sensor 15 and flux guide 12, Column 3, lines 17-20).

Suzuki does not specifically disclose that the MR sensors are spin valve sensors. Cain et al discloses a yoke spin valve MR read head (figure 3). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the reduced sensitivity sensor apparatus of Suzuki with the spin valve sensors as taught by Cain et al.

The rationale is as follows: Cain et al utilize a spin valve sensor in the yoke type read head with the purpose of taking advantage that the magnetoresistance is not dependent on the relative direction of the sense current. One of ordinary skill in the art would have been motivated to provide the reduced sensitivity sensor apparatus of Suzuki with the spin valve sensors as taught by Cain et al as it would eliminate the dependency on the direction of the sense current.

Response to Arguments

3. Applicant's arguments filed 10/9/03 have been fully considered but they are not persuasive.

Applicant asserts in pages 6:

“Suzuki does not teach or suggest the claimed limitation of, ”wherein a flux generated by the at least one flux guide is shared between the first spin valve sensor and the second spin valve sensor....”

The examiner respectfully point out that figure 1 of Suzuki clearly shows that the flux guide 13 is shared between the two spin valve sensors.

Applicant asserts in page 8:

“There is not motive for the combination of Suzuki and Cain, and the combination does not teach the claimed invention.”

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Cain teaches the use of spin valve sensors instead of MR elements is obvious to one of ordinary skill in the art.

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

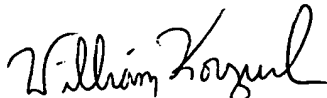
MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Angel A Castro whose telephone number is 703-308-8435. The examiner can normally be reached on Monday through Thursday, 8 AM to 6 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William R Korzuch can be reached on 703-305-6137. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Angel Castro, Ph.D.


WILLIAM KORZUCH
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600